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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID G. PEOT and WILLIAM C. BUCK

Appeal 2009-000590
Application 10/720,990
Technology Center 3700

Decided:[1] June 1, 2009

Before: WILLIAM F. PATE, III, JENNIFER D. BAHR and
JOHN C. KERINS, *Administrative Patent Judges*.

PATE, III, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 1-15. App. Br. 3. Claims 16-18 have been withdrawn from consideration. App. Br. 3. We have jurisdiction under 35 U.S.C. § 6(b). The claims are directed to a table saw having a reaction system. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

> 1. A table saw having a cutting region for cutting workpieces, comprising:
>
> a. a motor driving a movable cutting tool for cutting workpieces in the cutting region;
>
> b. a detection system adapted to detect one or more conditions; and
>
> c. a reaction system associated with the detection system and the cutting tool wherein the reaction system is configured to retract the cutting tool at least partially away from the cutting region and to disengage the motor from driving the cutting tool upon detection of at least one of one or more conditions by the detection system, wherein the cutting tool retracts independently of the motor.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Spychalla	US 2,674,130	April 6, 1954
Gass	US 2002/0020265 A1	Feb. 21, 2002

The Examiner rejected claims 1-15 under 35 U.S.C. § 103(a) as being unpatentable over Gass in view of Spychalla (Ans. 3), and also over Spychalla in view of Gass (Ans. 5). The Examiner's supporting rationale for the Gass in view of Spychalla rejection is that it would have been obvious to

provide the up-cut chop saw 1181, read as the claimed "table saw", depicted in figure 5 of Gass, with the drive system and blade adjustment system of Spychalla, in order to reduce the mass of the cutting tool and thereby facilitate vertical movement. Ans. 3. The Examiner's supporting rationale for the Spychalla in view of Gass rejection is that it would have been obvious to provide Spychalla's table saw with the detection and reaction systems taught by Gass in order to ensure the safety of the operator. Ans. 6.

Normally we do not consider the order that references are applied to be particularly relevant to the determination of obviousness. *See, e.g., In re Bush*, 296 F.2d 491, 496 (CCPA 1961). In this instance, however, the Examiner's proposed modification of Gass to incorporate the teachings of Spychalla differs significantly from the Examiner's proposed modification of Spychalla to incorporate the teachings of Gass. For this reason, the Examiner's rejections of claims 1-15 as being unpatentable over Gass in view of Spychalla, and, in the alternative, as being unpatentable over Spychalla in view of Gass, warrant separate discussion.

ISSUES

Appellants allege that the combination of Gass and Spychalla does not render claim 1 obvious because neither Gass nor Spychalla, alone or in combination, teach or disclose disengaging the motor from driving the cutting tool, or retracting the cutting tool independently of the motor, as required by claim 1. App. Br. 5-7.

Appellants further allege that there is no reason to combine Gass and Spychalla because they are directed to significantly different aspects of rotating cutting systems and are only related to the extent that they deal with

rotating cutting tools. App. Br. 7-8. Appellants also allege that Spychalla cannot be properly combined with Gass, because in order for the systems disclosed in Gass to operate properly those systems require a cutting tool that can be in precise and consistent positions which cannot be achieved by supporting a blade on the Spychalla arm. App. Br. 8. Appellants further allege that the indirect drive system of Spychalla cannot be substituted for the direct drive system of Gass. App. Br. 8. Appellants additionally contend that if the rotating arm of Spychalla supporting the cutting tool were incorporated into Gass, it would defeat the intended purpose of Gass, because the arm of Spychalla requires manual operator action to rotate the cutting tool, whereas Gass requires that movement occur automatically to protect the user. App. Br. 9.

In light of these contentions, we must determine if the Appellants have established that the Examiner erred by rejecting claim 1 as unpatentable over Gass in view of Spychalla or, in the alternative, as unpatentable over Spychalla in view of Gass.

Appellants additionally contend that claim 6 is not rendered obvious by the combination of Gass and Spychalla, because neither Gass nor Spychalla discloses or suggests a table saw including a trunion (Appellants' spelling is adopted) carrying a motor and cutting tool, wherein the cutting tool is mounted on a first side of the trunion, and the motor is mounted on a second side of the trunion as required by claim 6. App. Br. 9-11. Thus, we must also determine whether Appellants have established that the Examiner erred by concluding that Gass and Spychalla would have taught or suggested this feature.

FINDINGS OF FACT

1. Spychalla discloses a table saw (figs. 1, 10, 11) having a cutting region for cutting workpieces (proximate joiner blade 102), comprising: a motor 88 driving a movable cutting tool 102 for cutting workpieces in the cutting region.
2. Spychalla additionally discloses that the cutting tool 102 is capable of retracting at least partially away from the cutting region by pivoting tip table 99 (clockwise as viewed in figs. 1 and 10), which is hingedly mounted to extending members 103 in order to adjust the height that the blade 102 protrudes above the table top 20. *cf.* figs 1 and 10; col. 4, ll. 47-74. This pivoting would cause the driven pulley 109, connected to the cutting tool 102, to move closer to drive pulley 111, connected to the motor 88, thereby reducing tension in belt 110'' which would in turn cause disengagement of the motor 88 from the cutting tool 102. *See* col. 5, ll. 9-17 (Explaining that engaging or disengaging the belts makes the tool active or inactive, respectively, and that the tension on the belt is a function of the distance between the motor's drive pulley and the tool's driven pulley).
3. Spychalla fails to disclose a detection system and a reaction system associated with the detection system. Thus, Spychalla fails to disclose that the retraction of the cutting tool independent of the motor, which disengages the motor from the cutting tool in Spychalla, occurs upon the detection of at least one of one or more conditions by a detection system, and also fails to disclose a reaction system that is configured to retract the cutting tool.

4. Gass teaches a machine 10 for cutting workpieces, which includes operative structure 12 having a cutting tool 14 and a motor assembly 16 adapted to drive the cutting tool. *See* fig. 1 (shown schematically); para. [0022]. Gass teaches providing a safety system 18 (para. [0022]) on the cutting machine 10 which detects the occurrence of a dangerous condition, via a detection subsystem 22 (para. [0026]), and, in response, engages the operative structure 12, via a reaction subsystem 24 (para. [0027]), to take action that will minimize the potential of a serious injury to an operator. To this end, one of the actions that the reaction subsystem 24 may be configured to take is to retract the cutting tool from its operative position. Para. [0027].
5. Gass contemplates the applicability of his invention to different types of machines (para. [0022]) noting that the particular action taken by the reaction system will vary depending upon the type of machine that the safety system is applied to. *See* Paras. [0022], [0027].
6. In the embodiment depicted in figure 5, Gass discloses an up-cut chop saw 1181 (para. [0048]) having a cutting region for cutting workpieces (proximate guard 1184), comprising: a motor (shown schematically at 16 in fig. 1) driving a movable cutting tool 40 for cutting workpieces in the cutting region; a detection system (shown schematically at 22 in fig. 1) adapted to detect one or more conditions (para. [0026]); and a reaction system 24 associated with the detection system (para. [0026]), and the cutting tool 40, wherein the reaction system 24 is configured to retract the cutting tool 40 (via pneumatic cylinder 1183 and arbor block 1182) at least partially away from the cutting region upon detection of at least one of one or more conditions by the detection system (para. [0055]).

7. Gass does not specifically locate the motor of the up-cut chop saw 1181, but the motor must be located so that the up-cut chop saw can be used for its intended purpose, cutting or chopping while the blade 40 is moving upward. *See, e.g.,* para. [0005].
8. The Specification states that the table saw 10 includes trunion 100 which can be adjusted up or down or at an angle with respect to the top of the table 24. Para. [0020].

PRINCIPLES OF LAW

The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. The key to supporting any prima facie conclusion of obviousness under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Court in *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) noted that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited with approval in *KSR*, 550 U.S. at 418.

"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. A prima facie conclusion of obviousness may be supported by a showing that the claims are directed to a process, machine, manufacture, or composition of matter already known in the prior art that is

altered by the mere substitution of one element for another known in the field, and such modification yields a predictable result. *See id.* (citing *United States v. Adams*, 383 U.S. 39, 40 (1966)). The Court further stated that:

> [I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

KSR, 550 U.S. at 417. When considering the obviousness of a combination of known elements, the operative question is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

ANALYSIS

Spychalla discloses the basic structure of the saw described in claim 1. Fact 1. Spychalla also discloses that the cutting tool is arranged in relation to the driving motor in a manner that enables the cutting tool to retract independently of the motor, away from the cutting region, which would result in the disengagement of the motor from the cutting tool. Fact 2. Spychalla uses this movement in order to adjust the height of the blade 102 above the surface of the table top 20 and not for the purpose of safety. *See* Fact 2. Thus, Spychalla does not disclose a detection system that cooperates with a reaction system to produce the claimed movement upon the detection of one or more conditions that, for example, may put the operator in danger. Fact 3.

Gass teaches that cutting machines 10 may be provided with a safety system 18 which detects the occurrence of a dangerous condition, via a detection subsystem 22, and, in response, engages the operative structure 12

of the machine 10, via a reaction subsystem 24. Fact 4. Gass contemplates the applicability of his invention to different types of cutting machines. Fact 5. One particular example is depicted in figure 5, wherein Gass demonstrates the application of his inventive concept to an up-cut chop saw 1181. *See* Fact 6. In order to apply his invention to the up-cut chop saw depicted in figure 5, Gass, at least in part, employs some of the existing operative structure of the chop saw 1181, namely the pneumatic cylinder 1183 and arbor block 1182. *See* Fact 6. Thus, when the up-cut chop saw 1181 is modified with Gass's safety system, the pneumatic cylinder 1183 and arbor block 1182 of the up-cut chop saw are used not only to allow the user to control the raising or lowering of the blade 40 relative to the table top in the ordinary operation of the saw (*See* paras. [0005], [0049]), but also they are additionally employed to retract the blade 40 in response to the detection of a dangerous condition (*See* para. [0055]).

Similar to the up-cut chop saw depicted in Figure 5 of Gass, the joiner portion of Spychalla already has operative structure in place for raising and lowering the blade 102 relative to the table top 20, namely, a tip table 99, which is hingedly mounted to extending members 103 and vertically located by nuts 106, 106' residing on bolt 105.

It is important to note that Gass does not claim to have invented the up-cut chop saw that is depicted in figure 5. Figure 5 serves merely to demonstrate the application of Gass's inventive concept to one of a variety of cutting machines (*cf. e.g.,* figs. 3 and 4). Contrary to the Examiner's assertion (Ans. 3, 9), what the combination of Gass and Spychalla would not have suggested is the modification of the up-cut chop saw depicted in figure 5 to include the drive system or the blade adjustment system of Spychalla. A

primary purpose of an up-cut chop saw, such as the one depicted in figure 5, is to cut during the upward movement of the blade 40. *See* Fact 7. If the drive system or the blade adjustment system of Spychalla were employed in the up-cut chop saw depicted in figure 5 of Gass, this functionality would be lost. Thus, there is no rational underpinning to support the Examiner's conclusion that it would have been obvious to modify the up-cut chop saw 1181 depicted in Gass with the drive system or the blade adjustment system of Spychalla. App. Br. 7-9.

Though Appellants correctly point out the flaws in the Examiner's reasoning advanced in support of the Examiner's rejection of claims 1-15 as unpatentable over Gass in view of Spychalla, Appellants do not provide any substantive arguments that serve to rebut the Examiner's alternative reasoning advanced in support of the Examiner's rejection of claims 1-5 as unpatentable over Spychalla in view of Gass.

Applying Gass's detection and reaction systems to the cutting machine of Spychalla so that the cutting tool 102 will retract from its operative position upon detection of at least one condition amounts to applying Gass's known safety technique to Spychalla's known cutting machine, in order to obtain the predictable result of minimizing the potential of a serious injury to an operator, and therefore the resulting structure would have been obvious to one having ordinary skill in the art. Ans. 6. The Spychalla device, as modified with the safety system of Gass, would result in a device wherein the motor becomes disengaged from the cutting tool by virtue of its retraction below the table 20 which causes a loss of tension on belt 110''. *Contra* App. Br. 5-7.

The fact that the machines that Gass uses to demonstrate the application of his invention may have the motors directly connected to a cutting tool (App. Br. 7-9) does not support the conclusion that one of ordinary skill in the art would have interpreted Gass's safety system as being applicable only to those types of machines. Gass contemplates applicability to a range of machines (Fact 5), and therefore would have suggested to one having ordinary skill in the art that Gass's safety system, which includes the detection and reaction subsystems, may be applied to a machine which has a pulley drive arrangement and a cutting tool that moves independently of the motor, such as the one depicted in Spychalla.

Regarding claim 6, which depends from claim 5, read in light of the Specification, the claimed trunion requires at least some structure on the table saw which carries the motor on a first side and the cutting tool on a second side, and is capable of moving to effectuate the adjustment of the blade. *See* Fact 8. The Examiner cites to reference numeral 12 in figure 5 of Gass and to figures 1-12 of Spychalla in addressing this limitation. Ans. 4, 6-7, 10. Reference numeral 12 is used by Gass to refer to the operative structure generally. Thus, it is unclear what particular element of Gass the Examiner considers to be the claimed "trunion." In any case, Gass does not specifically locate the motor of the up-cut chop saw 1181 depicted in figure 5. Fact 7. Therefore, it amounts to speculation and conjecture to conclude that Gass teaches or suggests that the motor of saw 1181 is carried by a trunion that also carries the cutting tool mounted on another side. The motor 88 and cutting tool 102 of Spychalla are each carried on their own movable structures, carriage 90 and tip table 99, respectively. Thus, Spychalla also does not teach or suggest the claimed table saw including a trunion that

carries both the cutting tool and the motor on the respective first and second sides thereof as required by claim 6[2].

CONCLUSION OF LAW

On the record before us, Appellants have established that the Examiner erred by concluding it would have been obvious to modify the up-cut saw depicted in figure 5 of Gass with the drive system or the blade adjustment system of Spychalla. However, Appellants have failed to establish that the Examiner erred by concluding that it would have been obvious to modify the cutting machine of Spychalla with the safety system, including the reaction and detection subsystems, of Gass. Further, Appellants have established that the Examiner erred by concluding that the combination of Sypchalla and Gass would have taught or suggested a table saw including a trunion carrying a motor and cutting tool, wherein the cutting tool is mounted on a first side of the trunion, and the motor is mounted on a second side of the trunion as required by claim 6.

DECISION

For the above reasons, the Examiner's rejection of claims 1-5 as being unpatentable over Spychalla in view of Gass is affirmed. The Examiner's rejections of claims 6-15 as being unpatentable over Gass in view of Spychalla, or in the alternative, as being unpatentable over Spychalla in view of Gass, are reversed.

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[2] Claims 7-15 depend from claim 6.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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